

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method, including:

converting a combined plurality P of asynchronous data streams received at substantially the same time from a first time domain to a frequency domain;

separating the combined plurality P of asynchronous data streams into a separated plurality of data streams in the frequency domain;

converting the separated plurality of data streams from the frequency domain to a second time domain; and

synchronizing at least one of the separated plurality of data streams in [[a]] the second time domain,

wherein the at least one of the separated plurality of data streams is formatted according to one of an Institute of Electrical and Electronics Engineers 802.11 standard or an Institute of Electrical and Electronics Engineers 802.16 standard, and wherein the asynchronous data streams are out of synchronism by a time period greater than an allowed guard band time period.

2. (Previously Presented) The method of claim 1, further including:

separating the combined plurality P of asynchronous data streams using a channel matrix.

3. (Original) The method of claim 1, further including:

receiving, at substantially the same time, the combined plurality P of asynchronous data streams at a plurality Q of antennas.

4. (Original) The method of claim 1, further including:

separating the combined plurality P of asynchronous data streams into the separated plurality of data streams in the frequency domain using a frequency spatial demapper.

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5. (Original) The method of claim 1, wherein the separated plurality of data streams correspond directly to a number of wireless channels.
 6. (Canceled)
 7. (Canceled)
 8. (Currently Amended) An article including a machine-accessible medium having associated information, wherein the information, when accessed, results in a machine performing:
 - converting a combined plurality P of asynchronous data streams received at substantially the same time from a first time domain to a frequency domain;
 - separating the combined plurality P of asynchronous data streams into a separated plurality of data streams in the frequency domain;
 - converting the separated plurality of data streams from the frequency domain to a second time domain; and
 - synchronizing at least one of the separated plurality of data streams in [[a]] the second time domain,
 - wherein the at least one of the separated plurality of data streams is formatted according to one of an Institute of Electrical and Electronics Engineers 802.11 standard or an Institute of Electrical and Electronics Engineers 802.16 standard, and wherein the asynchronous data streams are out of synchronism by a time period greater than an allowed guard band time period.
 9. (Original) The article of claim 8, wherein the separating is performed by a wireless access point.
 10. (Original) The article of claim 8, wherein the information, when accessed, results in the machine performing:

computing a frequency response for a number of channels corresponding to the plurality P of asynchronous data streams.

11. (Canceled)

12. (Original) The article of claim 8, wherein the information, when accessed, results in the machine performing:

synchronizing at least one of the separated plurality of data streams after detecting a presence of a short preamble.

13. (Original) The article of claim 12, wherein the information, when accessed, results in the machine performing:

estimating a coarse frequency offset.

14. (Currently Amended) An apparatus, including:

a module to separate, in a frequency domain, a combined plurality P of asynchronous data streams received at substantially a same time into a separated plurality of data streams, after the combined plurality P of asynchronous data streams have been converted from a first time domain to the frequency domain; and

a synchronization module to synchronize at least one of the separated plurality of data streams in a second time domain after the separated plurality of data streams has been converted from the frequency domain to the second time domain,

wherein the at least one of the separated plurality of data streams is formatted according to one of an Institute of Electrical and Electronics Engineers 802.11 standard or an Institute of Electrical and Electronics Engineers 802.16 standard, and wherein the asynchronous data streams are out of synchronism by a time period greater than an allowed guard band time period.

15. (Original) The apparatus of claim 14, wherein the module to separate further includes:
a spatial demultiplexer to provide the separated plurality of data streams.

16. (Original) The apparatus of claim 14, wherein the module to separate further includes:

a module to perform a fast Fourier transform on the combined plurality P of asynchronous data streams; and

a module to perform an inverse fast Fourier transform on at least one of the separated plurality of data streams.

17. (Previously Presented) The apparatus of claim 14,

wherein the synchronization module is to receive at least one of the separated plurality of data streams after processing by a module capable of performing an inverse fast Fourier transform.

18. (Canceled)

19. (Currently Amended) An apparatus, including:

a module to perform a fast Fourier transform on a combined plurality P of asynchronous data streams in a first time domain;

a spatial demultiplexer to provide, in a frequency domain, a separated plurality of data streams associated with the combined plurality P of asynchronous data streams;

a module to perform an inverse fast Fourier transform to convert at least one of the separated plurality of data streams to a second time domain; and

a module to synchronize at least one of the separated plurality of data streams in the second time domain,

wherein the at least one of the separated plurality of data streams is formatted according to one of an Institute of Electrical and Electronics Engineers 802.11 standard or an Institute of Electrical and Electronics Engineers 802.16 standard, and wherein the asynchronous data streams are out of synchronism by a time period greater than an allowed guard band time period.

20. (Original) The apparatus of claim 19, wherein at least some of the separated plurality of data streams include a plurality of orthogonal frequency division multiplexed symbols.

21. (Original) The apparatus of claim 19, wherein a frequency offset associated with a first data stream included in the separated plurality of data streams is different than a frequency offset associated with a second data stream included in the plurality of separated data streams.

22. (Currently Amended) A system, including:

a module to separate, in a frequency domain, a combined plurality P of asynchronous data streams received at substantially a same time into a separated plurality of data streams, after the combined plurality P of asynchronous data streams have been converted from a first time domain to the frequency domain;

a synchronization module to synchronize at least one of the separated plurality of data streams in a second time domain after the separated plurality of data streams has been converted from the frequency domain to the second time domain; and

a plurality Q of antennas to receive the combined plurality P of asynchronous data streams,

wherein the at least one of the separated plurality of data streams is formatted according to one of an Institute of Electrical and Electronics Engineers 802.11 standard or an Institute of Electrical and Electronics Engineers 802.16 standard, and wherein the asynchronous data streams are out of synchronism by a time period greater than an allowed guard band time period.

23. (Original) The system of claim 22, wherein the plurality Q of antennas form a portion of a multiple-input, multiple-output (MIMO) system.

24. (Original) The system of claim 22, further including:

a wireless access point coupled to the plurality Q of antennas.

25. (Original) The system of claim 24, wherein the wireless access point is to train at least one channel for at least some of a plurality of P users associated with the combined plurality P of asynchronous data streams.

26. (Original) The system of claim 22, further including:
a processor to form a Q x P channel matrix.